CLAIMS

1. The use of a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, as a tool for screening for molecules intended for treating diseases involving insulin.

2. The use as claimed in claim 1, characterized in that said fragment is selected from the group consisting of the sequences SEQ ID NO: 1-28.

3. A method for detecting molecules capable of modulating the tyrosine kinase activity of the insulin receptor, characterized in that it comprises:

a) bringing the activated insulin receptor into contact with a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, and the molecule to be tested, under conditions which allow binding of said fragment to said receptor,

b) adding a tyrosine kinase substrate,

c) measuring the tyrosine kinase activity, and

d) determining the modulation of the tyrosine kinase activity by comparison with a control consisting of the activated insulin receptor and said fragment.

4. The method as claimed in claim 3, characterized in that said fragment is selected from the group consisting of SEQ ID NO: 1 to SEQ ID NO: 28.

5. The method as claimed in claim 3 or claim 4, characterized in that, prior to step a), a preselection of the molecules capable of modulating the interactions of a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, with the insulin receptor, is carried out by:

1) immobilizing said fragment on a solid support,

2) bringing the molecule to be tested into contact with said fragment, then

3) incubating with the labeled and pre-activated insulin receptor, under conditions which allow binding of said receptor to said fragment,

4) separating said labeled receptor not retained on the support,

5) detecting the complex possibly formed between said fragment and the activated insulin receptor, and

6) determining the effect of the molecule by comparison with a control comprising said fragment and the insulin receptor.

6. The use of a molecule capable of binding to a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, and of inhibiting the tyrosine kinase activity of the insulin receptor, for manufacturing a medicinal product which can be used in the treatment of diseases involving insulin.

7. The use as claimed in claim 6, characterized in that said molecule is obtained using the method as claimed in any one of claims 3 to 5.